CONDITIONAL PETITION FOR EXTENSION OF TIME

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REMARKS

Reconsideration of claims 1-36, as amended herein, is respectfully requested. Claims 1, 27, 32 and 35 are amended to clarify the nature of the claimed invention and respond to the Examiner's comments in the Office Action.

In the Office Action dated April 1, 2004, Examiner rejected claims 1-10 and 32-34 under 35 U.S.C. § 103, as being unpatentable over Wolcott et al. (USP 6,317,583) in view of Li et al. (USP 6,269,245). Claims 11-26 were rejected under the same statute in view of Li et al. and further in view of Zhao et al. (USP 6,332,069), while remaining claims 27-31, 35 and 36 were rejected over Kortaitim et l. (USP 6,370,117) in view of Wolcott et al.

The applicant respectfully traverses the Examiner's rejection of the pending claims 1-36 and points out several distinctive features and differences of the claimed invention that are neither anticipated nor rendered obvious by the cited prior art references. The claims are amended to clarify and emphasize these differences.

None of the cited references, either alone or in combination, disclose the following important aspects of the current invention. All cited references refer and use the term "subband" and "subbanding" in a traditional manner, meaning predetermined mutually exclusive, contiguous pieces of frequency spectrum within a larger allocation. In contrast, the current invention describes and defines this term, as emphasized in the amended claims, to refer to random access frequency channels grouped and assigned in such manner as to satisfy regulatory requirements of different regions and regulatory jurisdictions. *See* Specification at page 9, line 26 - page 11, line 25; *see also* page 2, line 25- page 3, line 15 and page 1, lines 27-30. Thus, the claimed invention simultaneously provides dynamic channel assignments to MES in multiple countries, according to differing regulatory constraints. A list of preferable, but non-exclusive, criteria and rules for defining a "subband" in accordance with the current invention is described at page 10, lines 5-10 of the Specification. Thus, contrary to the suggested teachings of Wolcott et al., Li et al., Zhao et al. and Kortaitim et l., the current invention defines and utilizes "subbands" not as mutually exclusive areas of the spectrum, but as non-exclusive and possibly overlapping portions of the frequency spectrum defined to accommodate

particular rules of different regions (which can very and be modified in accordance with changes in regional regulations). Accordingly, the amended claims are patentably distinct from the cited prior art reference based on the use and application of "subbanding," as this term is used and applied in accordance with the current invention.

The approach described by the current invention for defining "subbands" and using uplink channel selection has important functional implications in that it allows operation of the satellite uplinks in the presence of the uncontrolled usage from the terrestrial systems. None of the cited prior art references describe, teach or suggest, either alone or in combination, a method for selecting uplink channels in the presence of time varying interference from the terrestrial systems.

Another patentably distinctive feature of the claimed invention is that unlike the teachings in the cited references, it provides a means to identify and compensate for differential frequency and time of arrival arising from low-Earth Orbit spacecraft dynamics, without prior knowledge of the MES location. *See* page 8, line 23 - page 9, line 13 of the Specification.

Wolcott et al. describes a method and apparatus for mapping feeder link to mobile link beams on a transponding satellite. Unlike the current invention, this mapping is based upon a predetermined frequency plan. It's primary objectives and features are directed to avoiding interference between adjacent beams, beam handovers without

changing assignments or channelizer switch settings, and elimination the need for on-board state coordination or switching, and providing connectivity from the feeder link to all mobile bands in all beams.

Zhao et al. discloses a method for selecting the number of slots to offset a TDMA receive and transmit frames. This is done to lower the probability of slots that will be come unusable because of guard times need to accommodate differential propagation delay. The criteria is based upon the known location of a satellite mobile earth station (MES) within the coverage pattern of a geostationary satellite and the differential propagation delay characteristics if each spot beam. Each spot beam is logically divided into overlapping adjacent "zones". In each zone, a fixed receive to transmit offset is used. A set of channels (called a carrier group) is assigned to each zone. The channel to be used by a particular MES is determined using previously known MES location.

Li et al. discloses re-utilization of channels and selection of channels based on three demand profiles described at col. 2, lines 37-65, but it also relies on a criteria that utilizes previously known MES location, and also does not teach dynamic grouping or assignment of frequency channels in such manner as to satisfy regulatory requirements of different regions and regulatory jurisdictions.

Koraitim et al. describes a method for adaptive allocation of a single communications channel among Constant Bit Rate (CBR) and Variable Bit Rate (VBR) traffic. This concept is called a dynamically controlled boundary policy, and it controls the servicing of different queues associated with each type of traffic. The algorithm uses the various queue sizes and the Quality of Service requirements to determine how much of each type of traffic should be placed onto the communications channel.

Finally, the current invention, particularly as recited in the pending claims 27-36, includes a mechanism or method for changing the packet size being processed by each receiver. Contrary to the Examiner's arguments, the applicant respectfully points out that none of the cited prior art references anticipates or renders this obvious. Unlike the current invention that carries only "bursty" traffic of different message lengths, Koraitim et al. describes and deals with a channel service for two very different types of traffic (constant and variable bit rate, CBR and VBR traffic). To resolve this problem, Koraitim suggests allocating a virtual channel boundary that divides the VBR and CBR traffic (*see* Koraitim, col. 2, lines 43-65), and changing the state of the channel based upon observation of the separate queues (shown in Fig. 2 of Koraitim) at the input of the channelizer (*see* Koraitim, col. 2, lines 66 - col. 3, line 14). In contrast, the method utilized by the current invention is based upon observation of the channel activity of the entire population of emitters and incoming traffic without any predetermined boundary or

division according to the type of message traffic, and determines which message size of two (or more) packet sizes for the "bursty" traffic to send to a receiver.

In view of the foregoing, applicant respectfully submits that claims 1-36 are patentably distinct over the applied references, and are in condition for allowance. Applicant hereby respectfully requests entry of this Amendment and an early favorable action on the merits.

CERTIFICATE OF MAILING
I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail under 37 C.F.R. 1.10 in an envelope addressed to:
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DATE: October 1, 2004

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